Testimony
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House Committee on Government Reform
Subcommittee on Regulatory Affairs

HEARING
PROTECTING OUR GREAT LAKES:
BALLAST WATER AND THE IMPACT OF INVASIVE SPECIES

Anchor Bay High School
Fair Haven, Michigan
Friday, September 9, 2005

SUMMARY

U.S.-Flag Great Lakes dry-bulk cargo vessels (Lakers) operate exclusively within the Great Lakes, an enclosed aquatic ecosystem. Therefore, Lakers have never introduced an invasive species to the Great Lakes. These invaders have been introduced via the ballast water on ocean-going vessels (salties). Nonetheless, Lake Carriers' Association (LCA) is committed to finding ways to stop future introductions. In 1993, the Association became the first maritime organization in North America to institute voluntary practices to slow the spread of an invasive introduced to the Great Lakes by ocean-going vessels. LCA pioneered research on filtration and treatment of ballast water for possible application on salties and over time developed additional ballast water management practices for its member to implement to lessen the spread of established exotics.

The only way to stop future introductions of invasive species is to develop systems or operating procedures that will remove or block non-indigenous species from the ballast water on ocean-going vessels. Since LCA's members do not operate any ocean-going vessels, we defer to other operators to make specific recommendations for new requirements for their vessels. However, the reality is that those non-indigenous species that have established themselves in the Great Lakes are going to migrate throughout the system over time. There are no natural barriers separating the Great Lakes. Therefore, whatever measures are eventually required of salties would have no value on Lakers. Lakers confine their operations exclusively to the enclosed aquatic ecosystem; their ballast water only contains what is already in the Great Lakes. LCA's members voluntarily implemented ballast water management practices to slow the spread of those invasives that have been introduced by salties, but no shipboard system or practice can eliminate exotics that have taken root in the Great Lakes. As the Draft Report of the Great Lakes Regional Collaboration declares, once these invasions have been launched, they are "irreversible." The war against future introductions of non-indigenous species will be won or lost in the ballast tanks on ocean-going vessels.

FORMAL TESTIMONY

Thank you, Madame Chairman. Lake Carriers' Association deeply appreciates the opportunity to address what is undoubtedly the most important environmental issue currently facing the Great Lakes: Invasive Species. Industry and the Federal Government must work together tirelessly to find a solution to this vexing problem, otherwise additional non-indigenous species will be introduced to the Great Lakes via the ballast water on ocean-going vessels.

Lake Carriers' Association represents 12 American corporations that operate 55 U.S.-Flag vessels exclusively on the Great Lakes. These vessels annually carry as much as 125 million tons of dry-bulk cargo that drive the regional and national economies of both the United States and Canada. Iron ore for the steel production, coal for power generation, and limestone for construction are the primary commodities our members haul. So efficient is the U.S.-Flag Great Lakes fleet that a vessel can carry a ton of iron ore 800-plus miles for less than the price of a meal at a fast food restaurant.

Given that these vessels are confined to the Great Lakes, we can state with certainty that no LCA vessel has ever **introduced** a non-indigenous species to the Great Lakes. These vessels operate entirely within the enclosed aquatic ecosystem, so their ballast water only contains what is already in the Great Lakes. Nonetheless, Lake Carriers' Association is committed to the goal of eliminating ballast water on ocean-going vessels as a vector for introducing new exotics into the Great Lakes.

First to Try to Stem Expansion of Ruffe

The issue of ballast water introduction of non-indigenous species first gained widespread attention on the Great Lakes when the ruffe was discovered in Duluth/Superior harbor in the early 1980s.[1] Introduced by an ocean-going vessel (saltie), the fish multiplied so quickly it threatened to displace native aquatic species. Alarmed at the prospect of the ruffe colonizing other areas of the Great Lakes, Lake Carriers' Association mobilized the maritime community and developed *Voluntary Ballast Water Management Practices for the Control of Ruffe in Lake Superior Ports* in 1993. The effort was the first of its kind in North America and hailed by the U.S. Fish and Wildlife Service as being "the cutting edge of technology."

These *Practices* aimed not to eliminate the ruffe from Duluth/Superior harbor; the fish was by then firmly established; but rather, to slow its spread throughout the Great Lakes. Despite the fact that Duluth/Superior typically ships and receives more than 1,000 cargos a year, the *Practices* achieved their objective. Only two other colonies of ruffe have been identified outside Lake Superior, one in Alpena, Michigan, on Lake Huron, and the other in Escanaba, Michigan, on Lake Michigan.

[1] Duluth, Minnesota and Superior, Wisconsin, often referred to as the "Twin Ports."

The U.S. Fish and Wildlife Service confirmed the effectiveness of LCA's *Practices* in its report *Surveillance For Ruffe in the Great Lakes, 2004.* "Voluntary ballast exchange [when ballast was taken in Duluth/Superior harbor] conducted by the Lake Carriers' Association, educational efforts conducted by Sea Grant and state, tribal, and federal environmental organizations, and range monitoring documented by surveillance, have significantly reduced the potential of human assisted ruffe range expansion. It appears that ruffe are expanding their range very close to unassisted range expansion projections."

A Pioneer on Research

LCA next partnered with Northeast-Midwest Institute in 1996 to test filtration and ballast treatment systems that could be installed on ocean-going vessels. Equipment was installed and tested on a Canadian-Flag Laker and then transferred to a barge moored in Duluth/Superior harbor for further testing and analysis. The project determined that filtration, followed by a secondary treatment such as ultraviolet irradiation, could be a workable option, but more research must be done before any system is viable for use on ocean-going vessels.

Implement Practices Lakes Wide

Although it is ocean-going vessels that have introduced non-indigenous species to the Great Lakes, Lake Carriers' Association recognized its responsibility to help slow the spread of these exotics. Therefore, in 2001, the Association's members implemented *Voluntary Ballast Water Management Practices* with that expressed goal. The actions taken include:

- ⇒ Avoiding discharge or uptake of ballast water in areas within or that may directly affect marine sanctuaries, marine preserves or marine parks;
- ⇒ Cleaning ballast tanks regularly to remove sediments;
- ⇒ Rinsing anchors and anchor chains during raising to return organisms and sediments to their place of origin; and
- ⇒ If necessary, removing fouling organisms from hull or sea chests when in drydock.

What More Can Be Done?

Before addressing what should be the next steps in the war against invasive species, it is important to establish some facts about the Great Lakes and those exotics that have been introduced. First, the Great Lakes are an enclosed aquatic ecosystem. They are interconnected by the St. Marys, St. Clair, and Detroit Rivers and the Straits of Mackinac.[2] Therefore, there is no natural barrier to stop a non-indigenous species discharged in Lake Superior from migrating, admittedly over time, to the other Great Lakes. If an invasive finds the climate suitable and devoid of predators, it will flourish and migrate.

Second, U.S-Flag Lakers operate exclusively within the enclosed aquatic ecosystem, so their ballast water only contains what is already in the Great Lakes. Therefore, the solution to stopping future introductions is to find ways to ensure that the ballast water on ocean-going vessels no longer contains invasives. As the Draft Report of the Great Lakes Regional Collaboration declares, once these invasions have been launched, they are "irreversible."

Since Lake Carriers' Associations' members do not operate ocean-going vessels, we defer to other operators to make specific recommendations for new requirements for salties. We can only encourage continued and expedited research on systems and operating procedures and again stress that Lakers never leave the enclosed aquatic ecosystem, so they have never introduced a non-indigenous species to the Great Lakes. Therefore, there is no reason to even consider applying new requirements for salties to Lakers.

We must further note that there are significant design and operational differences between salties and Lakers, therefore a system or practice that is viable on an ocean-going vessel may not be effective on a Great Lakes dry-bulk cargo vessel. A saltie requires as much as 3 million gallons of ballast when empty of cargo, and loads or discharges cargo at a relatively slow rate — a saltie can be in port for days. The largest U.S.-Flag Lakers load or discharge cargo in a matter of hours, taking on as much as 15 million gallons of ballast. Simply put, a system that can treat 3 million gallons of ballast over one or more days on a saltie would be overwhelmed by the Laker's flow rate of 80,000/gallon per minute.

In summation, the only way to stop future introductions of invasive species is to develop systems or operating procedures that will remove or block non-indigenous species from the ballast water on ocean-going vessels. The war against future introductions of non-indigenous species will be won or lost in the ballast tanks on ocean-going vessels.

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[2] In fact, Lakes Michigan and Huron are hydrographically considered one body of water.